

Mobile Laboratories

- Why use mobile labs?
 - High quality sampling
 - Controlled environment
 - Short and long term monitoring for in-situ experiments
 - Automated systems
 - Real-time analyses
- Types of mobile labs?
 - container
 - modular



Mobile/ Modular Laboratories



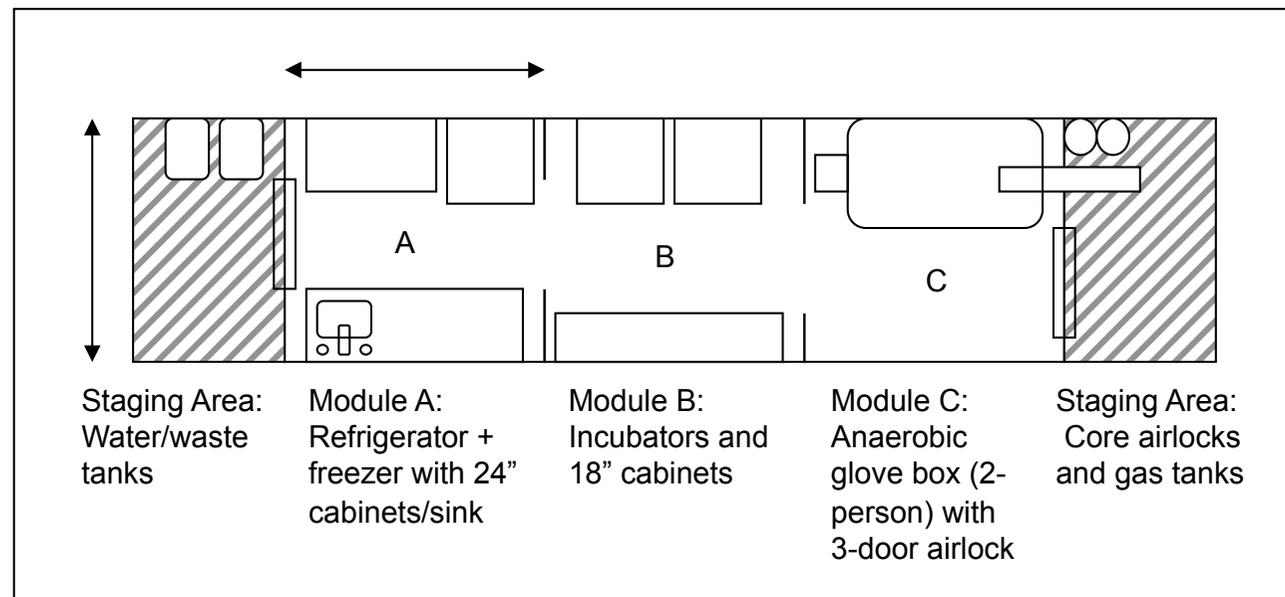
Mobile Lab as User Facility for DUSEL Community

- Ecohydrology –XM stations
- THMCB
- Carbon sequestration
- Graphite electrodes
- And many others

Mine Constrains

- cage and drift size (4'x12'x7')
- commercially available products are not suitable
 - design, size, weight, construction material, or load capacity
- Innovative modular design with knock-down panel format and adjustable parts
- using light weight, non-corrosive, non-conductive, non-flammable material.

Mobile Underground Laboratory for Experimentation (MULE)



Equipment

- Diesel generators and exhaust filters
- Anaerobic chamber (Coy)
- Gas Chromatograph (TCD+FID)
- HP compact commercial grade notebook PC
- Microscope (Nikon)
- Water Purification System
- Incubator / Env. Chamber
- Gilson autosampler
- Refrigerator/freezer
- Spectrophotometer 20
- Anaerobic Gassing Station
- Balance
- Stir/Hot plates
- Laminar flow hood
- Rock splitter
- Uninterrupted Power Supply/Conditioner
- Dry shipper
- Autoclave
- Packers
- HPLC pumps and fittings
- Peristaltic pumps
- Heating tapes and controllers
- Plumbing supplies
- Probes: T, pH, Cond.& Multimeter
- Compressed gasses/regulators
- HEPA filter
- Air conditioners
- Dehumidifiers
- Cabinets (interior/exterior)
- Liquid Storage Tanks (30-50gals) pump/lines

To assist with Experiment

- What infrastructure do you require?
- Equipment and energy needs/wants
- On-line real-time analyses for geological biological, and chemical interrogations